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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT	PAPER NUMBER
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2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/719,285

Applicant(s)

NISHIMURA ET AL.

Examiner

Christopher R. Lamb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6, 16-19, 24 and 25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7, 8/7, 9/8/7, 10/8/7, 11/7, and 12/7 is/are allowed.
- 6) ☒ Claim(s) 1-4, 13, 14, 15/13, 15/14, 20/13, 20/14, 21, 22, and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/20/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 5-6, 8/5, 8/6, 9/8/5, 9/8/6, 10/8/5, 10/8/6, 11/5, 11/6, 12/5, 12/6, 16-19, 20/16, 20/17, 24, and 25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election of Species G was made **without** traverse in the reply filed on December 4th, 2006.

Regarding claim 5-6:

These claims use the voltage difference method to calculate the mark inclination ("a step of calculating a voltage value change amount at two points..."), whereas Species G uses the average value method.

Regarding claims 8/5, 8/6, 9/8/5, 9/8/6, 10/8/5, 10/8/6, 11/5, 11/6, 12/5, and 12/6:

They are dependent on one or more of claims 5-6.

Regarding claims 16-17:

These claims use the voltage difference method to calculate the mark inclination ("a step of calculating a voltage value change amount at two points..."), whereas Species G uses the average value method.

Regarding claims 18, 19, 20/16, and 20/17:

They are dependent on either claim 16 or 17.

Regarding claims 24 and 25:

Similar to claims 16 and 17, they use the voltage difference method to calculate the mark inclination.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim recites "wherein the medium has description of identification information indicating..."

It is not clear what this means. As written, since the word "description" is a noun, the Applicant appears to be stating that the medium has on it a description of (as in, a statement describing) the identification information. If that is Applicant's intent, the claim should read something like "wherein the medium has recorded on it a description of identification information indicating..."

However, based upon the examiner's understanding of the specification, the medium actually has recorded on it the identification information itself, not a description of it.

The Applicant may be trying to use the word "description" to mean "recorded on it," so that the claim would read "a recording medium, wherein the medium has [recorded on it] identification information indicating that a laser pulse control parameter

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for performing continuous recording in which recording linear velocity is changed successively or stepwise is [recorded on] the recording medium.”

If that is Applicant's intent, the claim must be amended to make this clearer: as written, it is difficult to understand what is being claimed, a medium with identification information recorded on it, or a medium with a description of identification information recorded on it.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 13, 14, 15/13, 15/14, 20/13, 20/14, 21, 22, 23/21, and 23/22 are rejected under 35 U.S.C. 102(b) as being anticipated by Yokoi (US 6,459,666).

Regarding claim 13:

Yokoi discloses:

An optical disk apparatus comprising a laser for applying a laser beam onto an optical disk (Fig. 9),

laser control means for controlling the laser (Fig. 9), and

rotation drive means for driving the optical disk to rotate (Fig. 9),

so that a laser pulse is applied onto a recording layer of the optical disk to form a mark, thereby recording information on the optical disk (abstract),

wherein the laser control means changes recording linear velocity successively or stepwise for continuous recording by using such a control parameter that a change timing of the power level of the laser pulse for recording a mark having a length not smaller than the laser spot diameter in the recording layer is substantially proportional to the recording linear velocity (Fig. 16: the parameters shown relate to the change timing, as seen in Fig. 15).

Regarding claim 14:

It is similar to claim 13 except that it specifies a mark of 6T or above: Yokoi's apparatus applies to all mark lengths.

Regarding claims 15/13 and 15/14:

In Yokoi the control parameter is such a control parameter that the change timing of the front edge or the rear edge of the laser pulse in the laser pulse power level change timings is substantially proportional to the recording linear velocity (the parameters T_{top} and T_{tail} contribute to the change timing of the front edge and the rear edge; they are proportional as seen in Fig. 16 and Fig. 17).

Regarding claims 20/13 and 20/14:

The apparatus of Yokoi further comprises judgment means for judging whether continuous recording using the control parameter for changing the recording velocity successively or stepwise is possible before performing the continuous recording (it checks to see if the recorded values are optimal, and generates new optimal ones if they are not: for example, column 12, lines 1-15. If they are not optimal recording is not

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possible: see, for example, column 9, lines 40-55 for a discussion of the necessary parameter limits).

Regarding claim 21:

Yokoi discloses:

A writing method for recording information on an optical disk by applying a laser pulse on a recording layer of the optical disk so as to form a mark, wherein recording linear velocity is changed successively or stepwise for continuous recording by using such a control parameter that a change timing of the power level of the laser pulse for recording a mark having a length not smaller than the laser spot diameter in the recording layer is substantially proportional to the recording linear velocity (see, for example, Fig. 16 and 17).

Regarding claim 22:

This is similar to claim 21 except it specifies a mark of 6T and above. This has already been discussed with regards to earlier rejections.

Regarding claim 23/21 and 23/22:

In Yokoi the control parameter is such a control parameter that the change timing of the front edge or the rear edge of the laser pulse in the laser pulse power level change timings is substantially proportional to the recording linear velocity (this has also been discussed with regards to earlier rejections: T_{top} and T_{tail} , for example, control the change timing of the front and rear edges).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi (US 6,459,666) in view of Sasaki et al. (US 2002/0114233 A1).

Because of the confusing language of claim 1 (see the 35 U.S.C. 112 rejection above), claim 2 will be rejected first, and that rejection relied upon to address claim 1, as follows:

Regarding claim 2:

Yokoi discloses:

A recording medium on which information is recorded by applying a laser pulse to form a mark on a recording layer (column 1, lines 15-25),

wherein a plurality of control parameter groups are recorded which have the laser pulse power level changing timing substantially proportional to the recording velocity for recording a mark of length not smaller than the laser spot diameter in the recording layer (for example, column 11, lines 10-25: the proportionality has been discussed above).

Yokoi does not disclose:

"wherein identification information is recorded to indicate" that the parameters are recorded (essentially, Yokoi discloses that the parameters themselves have been recorded but not information indicating that the parameters have been recorded).

This is because Yokoi discloses that parameters are pre-recorded on the medium.

Sasaki discloses wherein an apparatus itself writes recording parameters on the medium (abstract). Sasaki discloses that the apparatus also writes identification information indicating that the parameters are recorded on the medium (abstract: the identification information for identifying the information recording apparatus is such information).

Sasaki discloses that this makes it easier to record in a state optimized for the recording medium (paragraph 37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Yokoi wherein identification information is recorded to indicate that the parameters are recorded, as taught by Sasaki. The motivation would have been to make it easier to record in a state optimized for the medium.

Regarding claim 1:

It is similar to claim 2 and is likewise rejected.

Regarding claim 3:

It is similar to claim 2 except that it requires the recorded mark be of length 6T or above; Yokoi's parameters apply to all mark lengths.

Regarding claims 4/2 and 4/3:

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In Yokoi in view of Sasaki the control parameter group is such a group that among the laser pulse power level change timings, the laser pulse front edge or the rear edge change timing is substantially proportional to the recording velocity (see, for example, Yokoi Fig. 15).

Allowable Subject Matter

9. Claims 7, 8/7, 9/8/7, 10/8/7, 11/7, and 12/7 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 7:

The claim and the closest prior art of record, Yokoi, will be compared side by side as follows:

Claim 7:	Yokoi:
A recording medium on which information is recorded by applying a laser pulse to form a mark on a recording layer, the recording medium containing control parameters recorded for respective linear velocities decided by:	Yokoi discloses a medium with control parameters on it (column 11, lines 10-25) and a method for deciding control parameters (for example, col. 12, lines 1-15). Yokoi never discloses the parameters on the medium were decided by that method, but that would be obvious, especially in view of Sasaki as applied to claims 1-4 above.

Claim 7:	Yokoi:
a step of recording a first mark having a length not smaller than the laser spot diameter in the recording layer at a first linear velocity;	trial writing at the minimum speed: column 12, lines 1-15
a step of recording a second mark having a length equivalent to the first mark at a second linear velocity;	trial writing at the maximum speed: column 12, lines 1-15
a step of calculating an average value of the voltage values during an interval T_s ($T_s < T_m/2$) in the time axis direction before and after the time position reference $T_m/2$ from the front edge of an electric signal waveform obtained by reproducing the first or the second mark at a predetermined linear velocity and having a time width T_m ; and	Yokoi calculates the asymmetry, as in column 9, lines 15-55. This calculation includes calculating the average value of the mark, as noted there.
a step of deciding a control parameter of the laser pulse power level change timing so that the aforementioned average value is substantially constant during recording at any of the linear velocities.	Yokoi does not hold the average value itself constant. As in column 9, lines 15-55, Yokoi holds the asymmetry value constant, not the average. Although the asymmetry includes in it the average, it is more complicated than the average alone.

Therefore the limitation involving deciding the control parameter so that the average value is substantially constant, in combination with the other limitations of the claim, renders it allowable over the prior art of record.

Regarding claims 8/7, 9/8/7, 10/8/7, 11/7, and 12/7:

They are dependent on claim 7.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tasaka et al. (US 7,068,579); Sasa et al. (US 6,628,595); Ushiyama et al. (US 2002/0105875) all disclose adjusting laser pulse control timing at various recording linear velocities.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 3/2/07


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